

and let it lie on the ground as a mulch! What a quantity of food for cattle he must have had at his disposal to be able to afford to waste such good stuff!

Four months from seeding, he mowed the crop, 2½ feet high, and each subsequent year it yielded three good crops, the first measuring 4 feet in length.

Having sold his farm, the correspondent is still interested in the plant, and he relates that, on a visit to the old homestead, the present occupant told him that the lucerne piece was the most profitable field on the farm. "I have cut three good crops every year, and the only manure it has had is what you put on just before seeding, i.e. thirteen years ago."

Rations.—Very sensible observation in *Hoard* on the conditions that affect the problem of "What to feed, and Why."

In reply to a dairyman who wants a formula for cows weighing 750 pounds each, the editor remarks that

"Our friend has been specific as to weight, but that is only one of the conditions determining the amount of feed that can be profitably used. The temperament of the cows and the amount of dairy product they yield or can be made to yield are equally or possibly more important. It is self evident that it requires more feed to support a cow weighing 1,000 pounds than it does to support one weighing only 750 pounds; also it takes more feed in addition to the food of support for some cows to produce 20 pounds of milk than it does for others to produce 25 pounds or 30 pounds. This ability to make economical and profitable use of feed by converting it into milk is governed by the individual temperament of the animal and the length of time she has been giving milk. It thus happens sometimes that a small cow will both eat more and yield more than a large cow, and that a cow in full flow of milk can utilize more feed than where the flow has decreased fifty per cent or more.

"Moreover the market price of feed stuffs should always be considered in making a selection. It seldom happens, especially in the older settled sections, that either oats or wheat are relatively as cheap as some of the other feeds, such as bran, the glutens, cotton seed meal and oil cake (at prices current a few years ago). The table published on page 789 is the best guide

there is as to the relative feeding value of the several articles mentioned. Add the digestive protein to the digestible carbohydrates and 2.2 times the digestible fat and there results what may be called the sum of the nutritive units in the material. For wheat bran these figures would be 57.8 and for ground corn 84.1, which show that for purely nutritive purposes the latter is worth nearly 50 per cent more than the former, when so fed that it can be properly digested. And this accords with common experience.

"Why then do we so frequently recommend bran instead of corn when the market price of each is nearly the same? For one reason, because the residual manurial value of bran is much in excess of that of corn, and this matter of keeping up the fertility of the farm should receive attention. Another reason is that in making up a formula we often find that the other feeds used supply nearly all the needed carbohydrates and other extract, so that only protein is lacking, and this can usually be had at less cost by using bran. A ton of bran contains 252 pounds of digestible protein, whereas in a ton of corn there are only 158 lbs. For this latter reason, that is, because this needed protein can be obtained at much less cost in that way, we recommend the glutens, brewers' grain, buckwheat middlings, cotton seed and linseed oil meals in many cases. Protein is an essential element in milk making. So far as is now known there is no other source from which the casein in the milk can come. It is also the only source of supply for the organic part of the bones, muscles, internal organs, skin, hair, etc."

There is a good deal of sound practical sense in the above.—*Ed. of J. of A.*

The Dairy.

IMPORTANT TO DAIRYMEN

Two Recent Inventions Which May Revolutionize the Dairying Industry

It is well known that the dairy industry of Canada is capable of almost limitless expansion. In the matter of cheese-making Canada did not enter very early into the race for position, but to-day Ontario alone produces more cheese than the total cheese exported by all the States in the Union.